NOVEMBER/DECEMBER 2025

23UESC32A/23UECS32A — STATISTICAL METHODS AND THEIR APPLICATIONS – I

Shanmuga Industries Arts & Science College
T.V.Malai

Time : Three hours Maximum : 75 marks

SECTION A — (10 × 2 = 20 marks)

Answer ALL questions.

1. What is difference between Discrete and Continuous Data

2. Write any Three limitations of Statistics.

3. Write the Merits and Demerits of the Harmonic Mean.

4. Write the relation between Mean, Median and Mode.

5. Find Range and Coefficient of Range of the data 8, 5, 4, 10, 20, 5, 16, 15

6. What is the Standard Deviation of 1st n natural numbers?

7. Define Skewness and type of Skewness.

8. Define Kurtosis and types of Kurtosis.

9. Define Karl Pearson's coefficient of Correlation with formulae.

10. Define Spearman coefficient of Correlation with formulae.

SECTION B — ($5 \times 5 = 25$ marks)

Answer ALL questions.

11. (a) Discuss the importance of statistics in modern era.

Or

(b) Construct a Histogram of the following Distribution.

Class	0-14	14-30	30-35
Frequency	7	16	15
Class	35-40	40-45	45-60
Frequency	25	20	30

19. Define Karl Pearson's, Bowley's, Kelly's Measure of Skewness.

20. Calculate correlation coefficient between X and Y and also find the regression line of X on Y

X	2	3	4	5	6	7	8
Y	4	5	6	12	9	5	4

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12. (a) Compute Mean of the following Distribution.

Class	10-20	20-30	30-40	40-50	50-60
Frequency	10	20	30	20	10

Or

(b) Find the Median wage of the following distribution.

Class	20-30	30-40	40-50	50-60	60-70
Frequency	3	5	20	10	5

13. (a) Find the Standard Deviation of the following.

Class	0-10	10-20	20-30	30-40	40-50	50-60
Frequency	10	20	30	50	40	30

Or

(b) Compute the mean deviation about the arithmetic mean for the following data

x	1	3	5	7
f	5	8	9	2

14. (a) The first four raw moments of a distribution are 2, 136, 320, and 40,000. Find out coefficients of skewness and kurtosis.

Or

(b) Compute the Karl Pearson's coefficient of skewness from the following data:

Height (in inches)	58	59	60	61	62	63	64	65
Number of persons	10	18	30	42	35	28	16	8

15. (a) Find the rank correlation coefficient from the following data

X	17	13	15	16	6	11	14	9	7	12
Y	36	46	35	24	12	18	27	22	2	8

Or

(b) Calculate the Karl Pearson's coefficient for the following heights of Fathers (X) and their Sons (Y)

X	65	66	67	68	69	70	70	72
Y	67	68	65	68	72	72	69	71

SECTION C — (3 × 10 = 30 marks)

Answer any THREE questions.

16. Calculate 5th Decile and 20th percentile form the data given below

Marks- 10, 12, 13, 16, 18, 19, 21, 23, 28, 30, 35, 40, 43, 45, 50, 52, 56, 60, 62

17. Find the mode for the following distribution

Class	0-10	10-20	20-30	30-40
Frequency	5	8	7	12
Class	40-50	50-60	60-70	70-80
Frequency	28	20	10	10

18. Calculate the Mean and Standard deviation for the following table giving the age distribution of 542 members.

Age in Years	20-30	30-40	40-50	50-60
No. of members	3	61	132	153
Age in Years	60-70	70-80	80-90	
No. of members	140	51	2	